

ABSTRACT OF THE DISCLOSURE

Methods are provided for quenching undesired side reactions of pathogen inactivating compounds in biological materials. In a particular embodiment, methods are provided for quenching undesired side reactions of a pathogen inactivating compound that includes a functional group which is, or which is capable of forming, an electrophilic group. In this embodiment, the material is treated with the pathogen inactivating compound and a quencher, wherein the quencher comprises a nucleophilic functional group that is capable of covalently reacting with the electrophilic group. The electrophilic group on the pathogen inactivating compound is preferably a non-radical cationic group. In one embodiment, the pathogen inactivating compound includes a nucleic acid binding ligand and a mustard group, wherein the mustard group is capable of reacting *in situ* to form the electrophilic group. Preferred quenchers are thiols, such as glutathione. Biological materials which may be treated include whole blood, red blood cells, blood plasma, and platelets. The methods permit inhibition of the modification of red blood cells in red blood cell containing materials during pathogen inactivation.

20